

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Serena Giori

Claudio Giori

Application No. 10/710,636

Filed: July 26, 2004

Art Unit: 1772

For: Self-Cooling Beverage Container Examiner: Bruenjes, Christopher P
With Permeable Wall

Commissioner for Patents

PO Box 1450

Alexandria, VA 22313-1450

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Sir:

Applicants respectfully request review of the final rejection in the above identified application. No amendments are being filed. This request is being filed with a notice of appeal. The review is requested for the reasons stated on the attached sheets.

Attachment to Pre-appeal Brief Request for Review, Application # 10/710,636

Remarks/Arguments

Applicants discovered that a continuous hydrophilic membrane transmitting water through a mechanism of absorption-diffusion-desorption produces a cooling effect that can be effectively utilized for the manufacture of a self-cooling water container. Never before has a cooling device been proposed which utilizes such a mechanism. Applicants' device overcomes the problems of prior art devices which depended on micro- or macro-porosity for evaporative cooling, such problems including blockage of the pores and resulting loss of permeability.

Reference is made to the Advisory Action of April 9, 2007, in which the Examiner reasserted his rejection of Applicants' claims 1-4 under 35 U.S.C § 103 as being unpatentable over Nomi (US 4,368,766) in view of Nowakowski (US 3,949,742). Applicants respectfully submit that the Examiner did not establish a *prima facie* case of obviousness for the reasons explained below.

Reason 1. There is no suggestion or motivation to combine the two references (MPEP § 2143.01)

The Examiner stated that the person skilled in the art of water containers would be motivated to substitute the non-porous back layer of Nowakowski's artificial skin for the microporous wall of Nomi's water container because of the superior resistance of Nowakowski's non-porous back layer to bacteria penetration. Applicants respectfully submit that Nowakowski does not teach superior impermeability to bacteria of his non-porous back layer, and that if such teachings were provided they would be incorrect.

Nowakowski never states that his non-porous back layer is superior to a microporous back layer with respect to resistance to bacteria penetration. He does state (col 2, line 9-14) that his back layer is superior to a microporous back layer such as the one described by Wheeler in US 3,648,692 with respect to elasticity. Elasticity is certainly desirable for an artificial skin that needs to stretch and conform, but is irrelevant and possibly undesirable for a portable water container, thus it does not provide a motivation to combine the Nomi and Nowakowski references.

The artificial skin described by Wheeler in US 3,648,692, cited by Nowakowski, has essentially the same construction as Nowakowski's artificial skin, that is, they both consist of a laminate of a foam front layer and a film back layer. The difference is that Wheeler's back layer is microporous, whereas Nowakowski's back layer is non-porous. It is important to note the following two points: (1) both Wheeler and Nowakowski clearly describe their back layers as "impermeable to bacteria", and (2) Nowakowski does not state or even remotely suggest that his back layer is superior to Wheeler's back layer from the standpoint of bacteria impermeability. However, it is the Examiner's position that, in spite of these two facts, the person skilled in the art of water containers would still assume that Nowakowski's back layer has impermeability to bacteria superior to Wheeler's back layer, and such assumption would motivate him to replace the microporous film of Nomi's water container with Nowakowski's back layer film.

Such an assumption would be in conflict with the teachings of Nowakowski and Wheeler, and also in conflict with general scientific understanding of the mode of bacteria travel. The pores of a microporous membrane such as Wheeler's back layer film allow transmission of water vapor, but they are too small to allow passage of liquid even when liquid is in continuous direct contact with the membrane. The impermeability to bacteria of Wheeler's membrane is the direct result of its impermeability to liquids. If Wheeler's back layer were macroporous, blood could fill the pores and blood flow would provide a vehicle for bacteria migration. Bacteria

cannot walk or fly, they need to be carried in order to go from one point to another. They cannot move on their own along the tortuous path of a microporous membrane. Microporous membranes can retain bacteria even in the extreme case when a liquid is forced under pressure through the membrane, which is the process used for bacteria filtration of solutions.

Wheeler repeatedly states in US 3,648,692 that the microporous back layer of his laminate is truly impermeable to bacteria. This is stated in the Abstract, on col 2 lines 43-44, on col 3 line 70, on col 4 line 28, and on col 6 lines 54-55. Nomi's water container in its preferred porosity range (.1-5 microns, col 3, lines 37-38) would be expected to perform the same way. In fact, Nomi states that his container, like Wheeler's back layer, is impermeable to liquid water (col 1, lines 40-41). In Applicants' opinion, however, Nomi's water container would fail to assure liquid and bacteria protection in its broadest porosity range (0.1-50 microns).

If the issue were impermeability to viruses, rather than bacteria, then the superiority of a non-porous film as a barrier over a microporous film would be unquestionable. But neither Nowakowski nor Wheeler are interested in virus protection for their artificial skins and they never mention virus protection. Certainly the person skilled in the art of portable containers for drinking water would have no interest in imparting to his container protection against infected blood.

Again, Nowakowski never states that his artificial skin with a non-porous back layer has an advantage over artificial skins with microporous back layers with respect to bacteria impermeability, and the Wheeler reference cited by Nowakowski confirms that such advantage does not exist. Furthermore, Nowakowski does not suggest that a cooling effect might be produced as a result of water transport through his back layer film. He does not recognize other potential advantages of a non-porous film relative to a microporous film, such as the fact that the pores of a microporous film may become blocked during use leading to a progressive loss of permeability (not a

problem with an artificial skin that is replaced frequently, but a critical problem with a container for drinking water which is used for a long time and should perform consistently).

Thus, there is no suggestion that might lead the person skilled in the art of water containers to substitute Nowakowski's back layer film for Nomi's microporous film. The mere fact that references can be combined does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. See MPEP 2143.01 (III). The desirability of the combination is not suggested. Such suggestion can only be derived from the hindsight knowledge of Applicants' own disclosure. The use of such hindsight knowledge to support an obviousness rejection under 35 USC §103 is impermissible. See *W L Gore and Assocs, Inc, v Garlock, Inc*, 721 F.2d 1553, 220 USPQ at 312-313.

Reason 2. One of the references relied on is not analogous prior art (MPEP § 2141(a))

Another reason why Applicants believe that a *prima facie* case for obviousness has not been presented is that the Nowakowski reference is directed to an entirely different art and in Applicants' opinion is not analogous. The Nomi reference is directed to a self-cooling water bag and is therefore pertinent to Applicants' invention, but the Nowakowski reference is directed to a synthetic skin for the therapy of burns, donor sites for skin grafting, ulcers and the like. The person skilled in the art of water containers would not be inclined to look at such a remote area of technology. In his Advisory Action, the Examiner stated that "Nowakowski is reasonably pertinent to the particular problem with which the applicant was concerned, which is a membrane that is waterproof, impermeable to bacteria, and permeable to water vapor". Applicants respectfully submit that what the Examiner is calling the "problem" is actually the "means to solve the problem". The "problem" of a self-cooling water container is very remote from the "problem" of an artificial skin.

The fact that a material used as the back layer of an artificial skin could also be used for the fabrication of a water container does not make the art of artificial skins analogous to the art of water containers.

To support his position that the Nowakowski's art is analogous, the Examiner cited *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In *Oetiker*, the field of invention was a fastener for a hose clamp. The Court ruled that a reference which disclosed a fastener for garments, which the Board relied upon on the theory that all hooking problems are analogous, was not within the field of applicant's endeavor and was not reasonably pertinent to the particular problem with which the inventor was concerned because a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would not be reasonably expected or motivated to look to fasteners for garments. Applicants submit that there is even greater lack of analogy in the case of the art of artificial skins relative to the art of containers for drinking water.

Closing

Applicants respectfully submit that a *prima facie* case for obviousness has not been presented. Withdrawal of the obviousness rejection of claims 1-4 is therefore respectfully requested.

Date: April 21, 2007

Respectfully submitted,

/Serena Giori/

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